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1763

Docket No. 2001-0128.00 (56202.US/4665.0)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants: Brian C. Hart et al.
Application No.: 09/929,849
Filing Date: August 14, 2001
Confirmation No.: 9848
Title: METHOD FOR MAKING INKJET PRINTHEADS
Examiner: Roberts P. Culbert
Group Art Unit: 1763

REPLY TO EXAMINER'S ANSWER

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This response is being submitted by appellants in reply to the Examiner's answer dated July 16, 2003, in order to point out the errors in the answer. In the Examiner's Answer, new and revised arguments were made in support of the rejected claims. However, even with the revised and new arguments, the cited references still fail to provide all of the elements of the claimed invention and the references are improperly combined. The primary references applied in all of the rejections still fail to provide the combination of discrete layers on a silicon wafer and removal of the water-soluble layer after forming slots in the wafer. Also, the primary references relied on for suggesting the important features of the invention fail to contain sufficient motivation for making the combination. For these reasons, the new grounds for rejection are in error and should be reversed.

ARGUMENTS

The '214 patent remains deficient

The '214 patent is directed to forming flow features in a nozzle plate not to forming ink feed slots in a silicon substrate. The '214 patent fails to suggest or disclose coating a silicon wafer with a non-water soluble material before forming ink slots in the silicon wafer.

In the examiner's answer at page 4, the '214 patent is cited for the teaching that it is known in the art to coat a semiconductor substrate with photo-curable epoxy resin. The examiner alleges that one of ordinary skill in the art would be motivated to apply a water soluble protective layer onto the permanent non-water soluble layer of the '214 patent to act as a protective layer in order to form ink-jet supply channels with aligned flow features.

However, the '214 patent at Col. 4, lines 4-7 only describes photopatterning the photo-curable epoxy resin to form ink supply channels therein. There is no need to apply a water soluble protective layer onto the photo-curable epoxy resin for use of the photopatterning process. There is simply nothing in the '214 patent that suggests or would motivate one skilled in the art to apply a water soluble protective layer on the permanent non-water soluble layer. Hence, reliance on this reference to reject all the claims is manifestly in error and should be reversed.

Claims 17 and 18 would not have been obvious to one of ordinary skill

In the examiner's final office action, the examiner stated that the claimed ranges of thickness for each layer was anticipated by the '214 patent. This argument was in error and was removed in the examiner's answer. However, page 6 of the examiner's answer alleges that it would have been obvious to one of ordinary skill in the art that the layer must be thick enough to provide adequate adhesion for the first layer, and adequate protection for the second layer.

The examiner has provided no evidence or support for this assertion. Further, he has failed to cite any suggestion in the prior art which shows any need to apply a water soluble protective layer onto a permanent non-water soluble layer to act as a protective layer in order to

form ink-jet supply channels using grit blasting or ablation techniques. Therefore, there is no motivation to form both layers, much less to form layers at the claimed thickness.

With regards to Appellant's arguments for the patentability of claims 13, 17-18, and 20

Appellant's assert that the '063 patent calls for depositing a water soluble polyacrylamide as an insulating layer between a photoconductive layer and a recording layer. This reference does not suggest a second layer that is removable after grit blasting ink vias in the wafer. In fact, the polyacrylamide layer is intended to be a permanent component of the recording medium in the '063 patent.

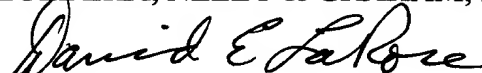
For the above reasons and the reasons set forth in the Appellant's Brief, Appellants submit that the combined references cited by the examiner fail to support a prima facie case of obviousness and that the references are improperly combined. Accordingly, the rejections of claims 2-7 and 13-20 are in error and should be reversed.

In the event this reply to the examiner's answer is not timely filed, Appellants hereby petition for the appropriate extension of time and request that the fee for the extension along with any other fees which may be due with respect to this paper be charged to our Deposit Account No. 12-2355.

Respectfully submitted,

LUEDEKA, NEELY & GRAHAM, P.C.

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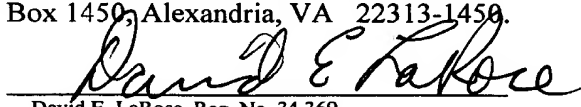
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Date : September 4, 2003


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